

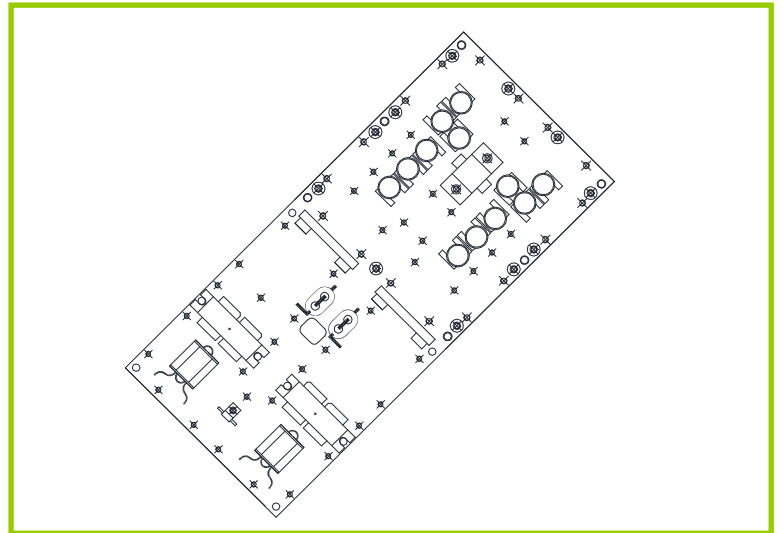
TDE02K0FM

Power Amplifier Section 2000W FM

Charateristics

- 87.5 – 108 MHz
- Pout nom: 2000W CW
- Pout max: 2200W CW
- Gain: 23dB min
- 50 Ohm in/out Impedance
- Classe B Operation
- Device: NXP BLF188 XR
- Dimension: (LxWxH)
219x99x30mm
8,58"x3.89"x1.18"
- Weight: 0.130Kg / 0.29lb

RoHS
Compliant



Applications

- FM application
- CW application
- PULSED application

Using new RF power transistor based on 6th generation LDMOS technology, this amplifier module combines excellent ruggedness with a high power gain, high RF power and maximum efficiency.

This pallet include a very selective low pass filter, to meet the harmonic ETSI requirements

Absolute Maximum Ratings

Parameter	Min.	Typ.	Max.	Units.	Note
Voltage Supply			52	V DC	
Supply Current			70	A DC	
Flange Operating temperature range			+120	°C	
Storage temperature range	-20		+150	°C	

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Electrical Specification

Parameter	Min.	Typ.	Max.	Units.	Note
Frequency Range	87.5		108	MHz	
Voltage Supply	30		50	Volts	Pout 1500W CW
Power Gain		23		dB	
Input Power	8	10	20	W	
Quiescent Current		300		mA	Vcc: 48V
Drain Efficiency	75	80		%	Pout 1500W CW
Power Output		2000	2200	W	See note 1
Input VSWR		<1.5:1			
Load VSWR			25:1		1 sec max
Load VSWR			2:1		Continuous work

Typical Performance

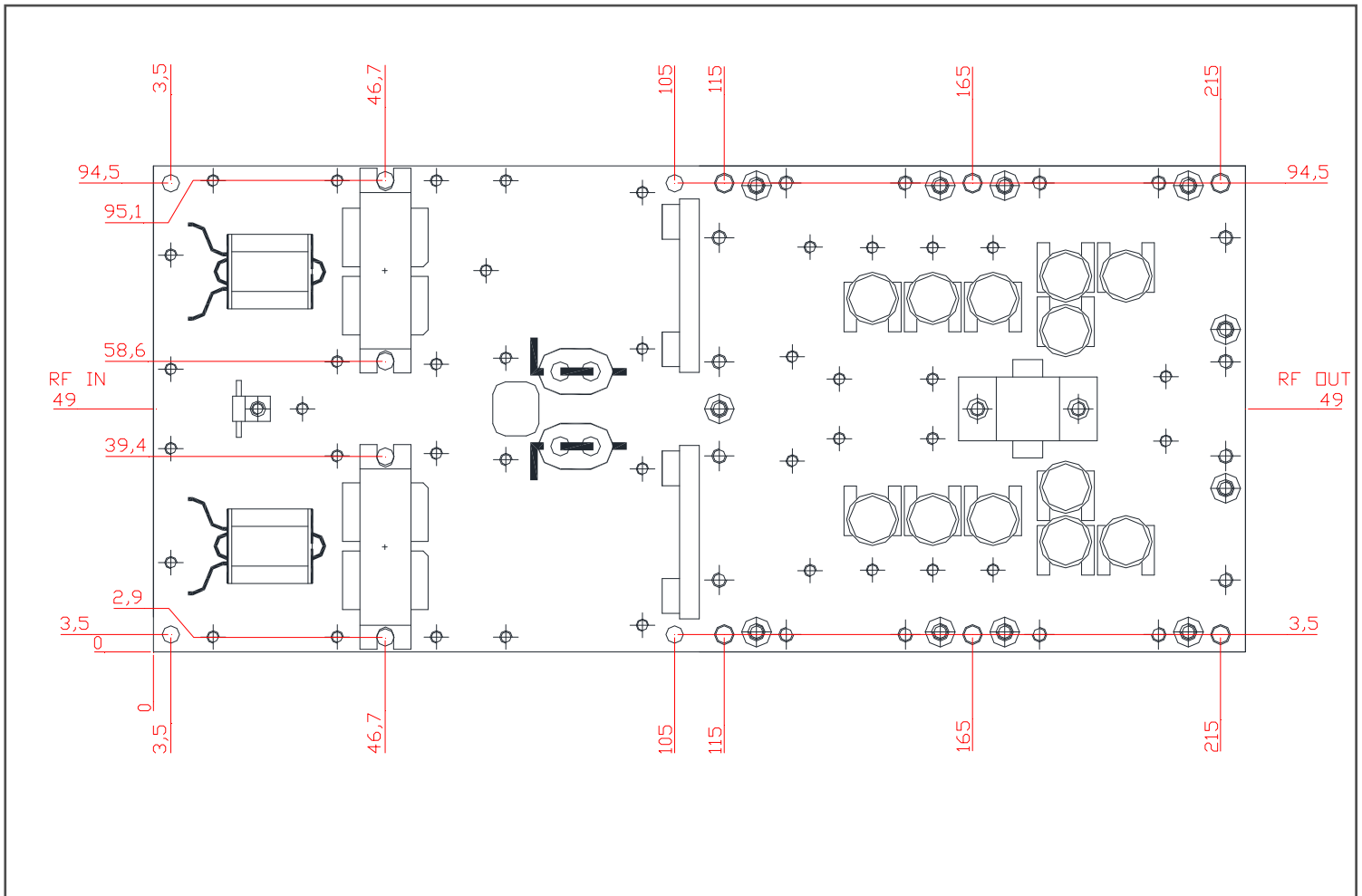
Measured on 50 Ohm dummy load constant supply voltage

Test Frequency (Mhz)	Power Out W)	Drain voltage (V)	Ids (A)	Efficiency %	2nd Harmonic (dB)	3th Harmonic (dB)
87,5	2000	48	53,4	78	<-75	<-75
92	2000	48	52,7	79	<-75	<-75
98	2000	48	55,5	80	<-75	<-75
102	2000	48	55,5	80	<-75	<-75
108	2000	48	51,4	81	<-75	<-75

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Mechanical Specifications



Screws Type

Screws point 1-2-9-10-11-4-3-14-13-12 M3 + split lock washer.
Screw 5-6-7-8 M3 + aluminium Cap + split lock washer.

Recommended Torque

The recommended Torque is: 1,2 N/m for Devices Fixing (2 places) and 1 N/m for other screws.

Thermal Compound

Recommended Dow Corning 340 (heat sink compound) or equivalent

Ordering Information

Product Name (standard Version)

TDE02K0FM

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Application Note

Note 1 (thermal exchanger requirements)

Max operative temperature is measured very closed to the device flange. Max temperature value is referred to the nominal operative condition.

Please assure a big air flow volume in case of use at max power (2000W)

Note 2 (Load matching)

This amplifier can work without power reduction on a 2:1 VSWR load matching with FM Signal.

Load mismatch higher than 2:1 can improve the temperature of output balun and RF device, a suitable protection system must be used.

Note 3 (shielding)

Due to the High gain of this pallet, a good shielding between final stage and any driver/low power stage is required. Please foresee a good RF choke also on the supply wiring.

Note 4 (Efficiency)

In order to have the best efficiency in any conditions, we strongly recommend to control the output power by means Changing the control voltage leaving stable the input RF level.

Important Note

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